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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,626	05/31/2001	Ketichi Maeda	SON-1539/CON	7772

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EXAMINER

MAYEKAR, KISHOR

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,626

Applicant(s)

MAEDA, KEIICHI

Examiner

Kishor Mayekar

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4,8,9 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4,8,9 and 11-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 16 and 22 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for means for heat treating the plated articles to eliminate the void, does not reasonably provide enablement for means for heat treating the articles in the claimed apparatus in a single operation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. None of the Figures 5 and 6 discloses the provision of means for heat treating.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, the phrase "said copper film" lacks antecedent basis.

In claim 22, the phrase "said copper film" lacks antecedent basis.

Claim Objections

4. Claims 18 and 22 are objected to because of the typo error in the phrase "no-oxidative". Appropriate correction is required.

Claim Rejections - 35 USC § 102 and § 103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 2, 4, 8, 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoger et al. (4,176,034), a reference cited in the last Office action. Stoger's invention is directed to an apparatus for the electrodeposition of aluminum. Stoger discloses in Fig. 1 that the apparatus comprises a plating chamber containing a substrate holder **14** and adapted to contain a plating bath **15**, a pre-treatment chamber **304**, a transportation chamber **305** connected to the pre-treatment chamber **304** by a door **303** and connected to the plating chamber by an inner lock opening **9**, wherein the pre-treatment chamber **304**, the transportation chamber **305**, and the plating chamber are combined to be maintained together in a non-oxidative atmosphere. The differences between STOGER and the above claims are whether Stoger's door **303** and inner lock opening **9** are equivalent to the recited gate valve, and the intended use of the apparatus to the recited substrate.

As to the first subject matter, since Stoger's door **303** which can be closed gastight (col. 5, line 63) and inner lock opening **9** are elements regulating the

transfer of the substrate holder into and out to the chambers or the loading and loading of the substrate, they are inherently gate valves in the meaning of the context of the specification. And, if they are not, the selection of any known equivalent transferring and/or loading/unloading valves would be within the level of ordinary skill in the art (emphasis added).

As to the second subject matter to the substrate used in a large scale integration process, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings because it has been held on the intended use of a device that "apparatus claims cover what a device is, not what a device does", *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ 2d 1525.

As to the subject matter of claim 4, Stoger discloses that the atmosphere is nitrogen or a rare gas atmosphere (col. 7, lines 33-38).

As to the subject matter of claim 8, Stoger discloses a gas supply port **18** and a gas evacuation port **322**.

As to the subject matter of claim 9, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings because expressions relating

the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claims, *Ex parte Thibault* 164 USPQ 666. Furthermore, it has been held that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims, *In re Young* 25 USPQ 69; *In re Otto* 136 USPQ 458.

As to the subject matter of claim 14, Stoger discloses the transportation chamber is connected to all the recited chambers by valve in Fig. 2.

8. Claims 15, 17-19 and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Stoger '034. Stoger as applied discloses all the structures as claimed in the above claims.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stoger '034. The difference between Stoger and the instant claim is the material or article worked upon. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining

patentability of the apparatus claims, *Ex parte Thibault* 164 USPQ 666.

Furthermore, it has been held that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims, *In re Young* 25 USPQ 69; *In re Otto* 136 USPQ 458.

10. Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoger '034 in view of Dotzer et al. (4,148,204). The difference between Stoger and the instant claim is the recited means for heat treating. Dotzer shows in a process for shaping metal articles the steps of electroplating aluminum on an article, and heat treating the electroplated article (col. 39-58). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as shown by Dotzer because the motivation to make a specific structure is always related to the properties or uses one skilled in the art would expect the structure to have, *In re Newell* 13 USPQ 2d 1248, *Fromson v. Advance Offset Plate* 225 USPQ 26; *In re Gyurik* 201 USPQ 552.

To the recited "said copper film", it has been held that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims, *In re Young* 25 USPQ 69; *In re Otto* 136 USPQ 458.

To the subject matter "said means for electroplating further including a function ... said non-oxidative atmosphere", the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claims, *Ex parte Thibault* 164 USPQ 666. Furthermore, it has been held that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims, *In re Young* 25 USPQ 69; *In re Otto* 136 USPQ 458.

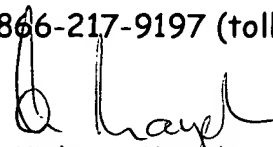
Response to Arguments

11. Applicant's arguments filed 27 December 2004 have been fully considered but they are not persuasive because of the clear rejection as set forth in the paragraph above.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kishor Mayekar
Primary Examiner
Art Unit 1753